

Metallized Ceramic Parts Datasheet

Mo/Mn metallized and plated alumina ready for brazing into vacuum interrupters, feedthroughs and hermetic assemblies.

Material: Alumina with Mo/Mn metallizing

Performance advantages: metallization thickness 25 +/-10um, nickel thickness 2-10um, pin pull strength 4200kgf/cm2 avg at 3.0mm pin, brazeable to metal parts

Industry applications: electrical transmission and distribution, electronics industry, textile machinery, automobile industry, sealing, solid oxide fuel cells, high temperature application

Typical parts: metallized ceramics for vacuum interrupters, metallized ceramics for electrical and electronic devices, ceramic brazed components, ceramic metallizing, welding ceramic part

Metallized Alumina Ceramic Ring

Metallized ceramic components for brazing to metal. Available ceramic compositions are 95% and 96% alumina ceramic components, AlN ceramic substrate and BeO ceramic substrate. Metallization and brazing are possible and our processing is available in a wide range of sizes and shapes as the customer requests.

Material	Alumina (Al2O3)
Size	Custom
Color	White + metal
Coating Layer	Mo/Mn
Plated Layer	Ni, Cu, Au, etc
Metallization thickness	25 ±10 um
Nickel thickness	2-10 um
Pin pull strength	4200 kgf/cm2 avg at Φ3.0mm pin

99% Alumina Ceramic Properties

Physical Properties		
Color		Ivory/Beige
Density	g/cm3	3.85
Alumina Content	%	99%
Gas permeability		0
Water Absorption		0
Mechanical Properties		
MONS' Hardness	Grade	9
Rockwell Hardness	HRA	92
Vickers Hardness (Hv50)	Gpa(Kg/mm2)	15.7 (1600)
Flexural Strength (20C)	Mpa	330
Compressive Strength (20C)	Mpa	2000

Fracture Toughness (20C)	MPam1/2	4
Modulus of Elasticity	Gpa	350-400
Thermal Properties		
Thermal Conductivity (20C-400C)	W(m.K)	27.5
Thermal Expansion Coefficient	10-6/C	7.6
Thermal Shock Resistance	dT C	200
Maximum Use Temperature	C	1650
Electronic Properties		
Dielectric Strength	KV/mm	> 10
Dielectric Constant	Er	9.1
Dielectric Loss Angle (1MHz)		0.0002-0.0003
Volume Resistivity (20C)	ohm.cm	> 10^14

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